

## The Taxonomy of the Genus *Krukoviella* A. C. Smith (Ochnaceae)

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The history of the genus *Krukoviella* A. C. Smith, while recent, is rather complex. In 1904 van Tieghem (Ann. Sci. Nat. Paris VIII, 19: 39) published the genus *Planchonella* with one species *P. disticha* in his family Luxembourgiacées. Obviously he was unaware that his genus was a homonym of the earlier *Planchonella* Pierre of the Sapotaceae (Notes Botaniques Sapotacées 1-36. 1890). Ule in 1915 (Notizbl. Bot. Gart. Berlin 6: 340) made a new combination of van Tieghem's species *Godoya disticha* (van Tieghem) Ule. A. C. Smith without reference to any of this earlier work published the genus *Krukoviella* (Jour. Arnold Arb. 20: 295. 1939) with one species *K. scandens*. Thus *Krukoviella* A. C. Smith takes precedence over the invalid homonym *Planchonella* van Tieghem, the type species of *Krukoviella* being *Planchonella disticha* van Tieghem. In this paper I have made the new combination: *Krukoviella disticha* (van Tieghem) Dwyer.<sup>1</sup>

While the nomenclatural history of *Krukoviella* is complex, its phylogenetic position is relatively simple. Its relationship with several tropical American genera of the tribe Luxemburgieae: *Godoya* R. and P., *Cespedezia* Goudot, and *Rhytidanthera* van Tieghem, is evident, being manifest especially in its foliar bracts which bear basal glandular appendages on the inside. In contrast to this complex of genera *Krukoviella* lacks similar appendages on the inner face of the sepals, a condition furnishing an excellent generic character. Its close relationship with *Godoya* R. and P. is shown principally in the morphology, venation, and texture of the leaf-blades, in the texture and shape of the sepals, and in the dehiscence of the anthers by a single instead of by two terminal pores. While A. C. Smith gives an excellent discussion of the genus I must disagree with his statement that *Krukoviella* differs from the remaining genera of the tribe in the character of its stigmas. Although dissections of immature pistils of *Cespedezia*, *Godoya*, and *Rhytidanthera* show them to have little stigmatic differentiation, mature material reveals that these genera possess definite sessile radiating stigmas similar to those of *Krukoviella*. Likewise I cannot agree with Smith's statement that *Krukoviella* differs from *Godoya* in that the stamens are disposed about the pistil in one row rather than two. Observations have revealed that both genera have their stamens arranged in a

<sup>1</sup> This paper was submitted as part of a thesis on the *American Genera of the Tribe Luxemburgieae (Ochnaceae)*, in partial fulfillment of the requirements for the degree of Doctor of Philosophy, Biological Laboratories, Fordham University Graduate School, New York, N. Y.

single whorl. In a recent paper (Bull. Torrey Bot. Club **71**: 175-178. 1944) I have discussed the morphological characters linking up the majority of the genera of the Luxemburgieae, including the genus *Krukoviella*.

Specimens examined for this paper are deposited in the herbaria of the following institutions:

- Field Museum of Natural History, Chicago, Ill. ....(F)  
 Gray Herbarium, Cambridge, Mass. ....(G)  
 Royal Botanical Garden, Kew Gardens, England ....(K)  
 The New York Botanical Garden, New York, N. Y. ... (NY)

I wish to thank Mr. Charles Gilly who made the excellent figure of *Krukoviella* (Fig. 1).

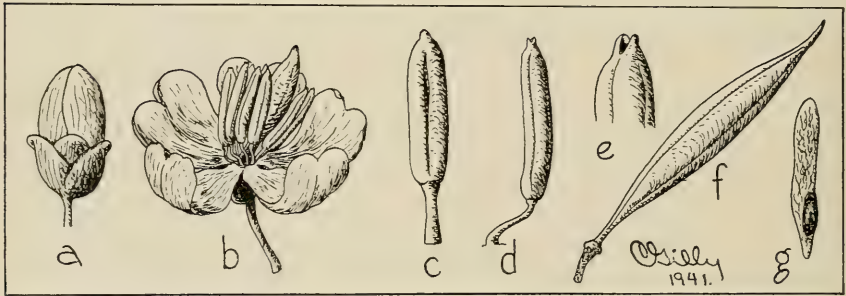


FIGURE 1. KRUKOVIELLA A. C. Smith. *K. disticha* (van Tieghem) Dwyer: a—bud ( $\times 2$ ); b—flower ( $\times 1.5$ ); c—stamen, dorsal view ( $\times 4$ ); d—stamen, lateral view ( $\times 4$ ); e—apical portion of stamen, showing the solitary terminal dehiscence pore ( $\times 8$ ); f—capsule ( $\times 1$ ); g—seed ( $\times 5$ ). (a—e, drawn from *Krukoff* 8908; f and g, drawn from *Williams* 5988).

KRUKOVIELLA A. C. Smith, Jour. Arnold Arb. **20**: 295. 1939.

*Planchonella* van Tieghem. Ann. Sci. Nat. Paris VIII. **19**: 39. 1904, not *Planchonella* of Pierre, Not. Bot. Paris p. 34. 1890.

*Godoya* Ule, Notizbl. Bot. Gart. Berlin **6**: 340. 1915, not *Godoya* of R. and P. Fl. Per. Prodr. **1**: 58. 1794.

Shrubs (or vines?); lenticels evanescent; stipule-scars distinct, the stipules appressed, coriaceous, bearing glandular appendages on the inner proximal margin; petioles of leaves short, the leaf-blades simple, ascending, the margin revolute, the teeth minute, the costa prominent above and below, the secondary veins conspicuous and subplane; inflorescence paniculate, the rachis elongate, pluriramose; flower pedicellate, the articulation-stalk short; sepals 5, subequal, coriaceous, persistent; petals 5, exceeding sepals in length, obtuse, often bilobed at apex; stamens 10, the filaments short, the anthers stout, linear-oblong, de-

hiscing by a single terminal pore; pistils solitary, 5-carpellate, crassate, the ovaries oblong, constricted above into a very short style, the stigmas 5, terminal, radial, and sessile, the ovules imbricate in several rows on 5 intrusive T-shaped parietal placentae; fruit (apparently) capsular, fusiform-falcate, the seeds short-winged.

Type Species: *Planchonella disticha* van Tieghem.

**Krukoviella disticha** (van Tieghem) Dwyer, comb. nov.

*Planchonella disticha* van Tieghem, Ann. Sci. Nat. VIII. 9: 39. 1904.

Not *Planchonella* of Pierre Not. Bot. Paris p. 34. 1890.

*Godoya disticha* (van Tieghem) Ule, Notizbl. Bot. Gart. Berlin 6: 340. 1915.

*Krukoviella scandens* A. C. Smith, Jour. Arnold Arb. 20: 296. 1939.

Shrubs (or vines?); stipule scars distinctly transverse, about 2-10 mm. apart; stipules appressed or contorted, thin-coriaceous, minutely glandular-strigose, rectangular, about 8 mm. long, about 4 mm. wide, distinctly rotund at apex, the margin entire, the corpus bearing small glandular appendages on inner proximal margin; petioles of leaves glabrous, 4-6 mm. long; leaf-blades subascending, glabrous, lustrous, thin-coriaceous, obovate or oblong, 4-16 cm. long, 2-8 cm. wide, obtuse at apex, cuneate or tapering obtusely at base, the costa prominent above, strongly prominent beneath, 0.15-0.2 cm. wide at base, tapering toward apex of blade, the secondary veins 9-18, conspicuous, sub-plane, 0.4-1.2 cm. apart in middle of lamina, spreading from costa at about a 70°-75° angle, the tertiary veins conspicuous and forming a conspicuous reticulum, the margins often strongly revolute, the teeth appressed, lanceolate, 0.25-0.5 mm. long, 1-6 mm. apart; inflorescence a dense terminal panicle, the flowers in bostryces, usually 3 per bostryx, the rachis 6-17 cm. long, exceeding uppermost leaves, the basal branches 6-12 cm. long, 1.8-3.5 cm. apart, becoming shorter and more dense at apex, the smaller branches compressed-paniculate, the articulation stalks 0.1-0.3 cm. long, the pedicels slender, 0.7-1 cm. long at anthesis; sepals subequal, coriaceous, glabrous, concave, ovate, ovate-rotund or ovate-oblong, less than half the length of petals, the outer 3-4 mm. long, 2.3-3 mm. wide, the inner 3.4-5.3 mm. long, 3-4 mm. wide, rotund at apex, obtuse or vaguely auriculate at base, the margin entire, without glandular appendages on inner proximal margin; petals yellow, carnose, obovate or obdeltoid, 9-13 mm. long, 6-8 mm. wide, obtuse at apex, frequently bilobed, the sinus up to 5 mm. deep, or erose-marginate or entire at apex, distinctly obtuse or tapering narrowly (often 1 mm. wide) at base; filaments of stamens slender, about  $\frac{1}{3}$  length of anthers, the anthers stout, lustrous, smooth, linear-oblong, 4-5.5 mm. long, dehiscing by a solitary terminal pore, obtuse-cuspidate at apex, vaguely auriculate at base; ovaries crassate, verrucose or thickly striate, narrow-oblong, 7.5-9 mm. long, 2-2.5 mm. wide, constricted above into

a short style, the latter less than 0.5 mm. long, the stigmas 5, usually distinct, white, radiating, sessile, oblique; fruit erect or vaguely falcate (dehiscent material not seen), linear-fusiform, up to 3 mm. long (here), acute at apex, the seeds short-transparent-winged, the wing (here) about 3 mm. long at one end (Fig. 1, a-g).

TYPE LOCALITY: Mt. Guayrapurina, Tarapoto, San Martin, Peru.

DISTRIBUTION: KNOWN from the States of San Martin and Loreto, Peru, and the State of Amazonas, Brazil.

PERU: San Martin: Tarapoto, *Spruce 4003* (F, photo., G,K, type collections of *Planchonella disticha*); Loreto: *Williams 5988* (F); Serro de Isco, *Ule 6716* (F, photo. and frag.). BRAZIL: Amazonas: São Paulo de Olivenca, *Krukoff 8908* (F, NY, type collection of *Krukoviella scandens*).

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## A Botanist Leaves Hawaii\*

OTTO DEGENER

The speaker, Collaborator in Hawaiian Botany at the New York Botanical Garden and resident of Hawaii since 1922, was feeding his tame pigeons on the lawn of his country home on Oahu one memorable December 7th morn when a score of planes roared overhead. As the peaceful pigeons were interested in the grain he held, and he was interested in the cooing and pirouetting pigeons, both parties ignored the noisy mechanical fliers. It was only hours later, after he tuned in on his radio and heard the frantic appeals for Dr. So-and-so, Dr. This and Dr. That—down the entire medical registry from A to Z—to report at the nearest hospital for disaster work that he realized something out of the ordinary had transpired. His 13-year old Hawaiian protege, who had bicycled to the village three miles away, on his return excitedly related how the occupant of a plane had shot at him and that a jump into a sugar cane tangle had saved him from harm, and how the shingle roof of his uncle's and *tutu's* house in the village had been riddled with bullet holes.

The radio blared for doctors; then with a minister's saintly voice, filled with anguish, it began to admonish and sooth the populace with Christ's

\* Mr. Degener talked to the Torrey Botanical Club on April 18, 1945, on "Plant Life and Customs of the Hawaiian Islands." (TORREYA 45: 63. 1945.) When asked for an abstract of his talk he gave us this interesting account of how he happens to be in the Continental United States, which serves as an introduction to his abstract.